I: Conzemius M-4, 5 (1921) 1932
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mangroves, reeds, and coarse grasses. Then follows the real tropical forest with very fertile soil, consisting on the surface of vegetable humus. In order to penetrate the forest the hunter has to cut his way through the tangled mass of vines and epiphytes with the aid of his machete. [137]

North of Rio Patuca the fertile areas are characterized by the existence of extensive "cohune ridges," that is, places dotted with the cohune or corozo palm (*Attalea* sp.). A great number of other palms are found in this region, but only two of them are cultivated and play an important part in the food supply, the coco palm and the pejivalle. Among the other tree forms characteristic of the forest may be mentioned the following: Ceiba (*Ceiba pentandra* Gaertn.), mahogany (*Swietenia macrophylla* King), Spanish or West Indian cedar (*Cedrela* sp.), rosewood, rubber tree (*Castilla* sp.), sapodilla (*Sapota sapotilla*), lignum vitae or guayacán (*Tecoma* sp.), Santa Maria or calaba (*Calophyllum brasiliense* var.), and balsa or corkwood (*Ochroma lagopus*). Epiphytic orchids are especially numerous and rare varieties are also found. The strong withes or *bejucos* on the trees are used in basketry and as a tying material. [285]

From Rio Tinto to Rio Grande the dense forest is at times interrupted by large areas of pine ridges or savannas. These are undulating plains covered with gravel or coarse sand, overgrown with grass, myrtaceae, oaks, nances, small fan palms and long leaf or pitch pines. This pine (*Pinus tenuifolia* Benth.) has its southern limit on the Atlantic side of Nicaragua, a little north of Bluefields Bluff, in latitude 12° 5′ north. Few big trees are to be found in these savannas; there is little underbrush, epiphytes and lianas are scarce, and the whole presents a parklike appearance. On the rich alluvial soil on both sides of the streams traversing the savannas grows a dense and luxuriant vegetation resembling the real forest.

ANIMAL KINGDOM.—Zoologically the Mosquito Coast belongs to South America rather than to North America. In this sparsely inhabited region may be found a great number of species of animal life. The largest mammals are the tapir and the manatee; the latter is still an important animal of food for the Indians, but it is getting rare now. [136]

In the jungle are found such beasts of prey as the jaguar, the puma or cougar, and the ocelot; a black variety of the jaguar is occasionally met with. The howling monkey, the spider monkey, and the white-faced or capuchin monkey are found on the tree tops; the two last-named ones are, together with two species of deer and two species of peccary, the most important food animals of the Indians. [224]

Three species of anteaters, many armadillos and opossums, and 2-toed and 3-toed sloths may be met with. Among the rodents may be mentioned the agouti, paca, several species of porcupine, squirrels,

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OTHER HANDICRAFTS

283 BARK FIBERS.—From various trees known locally as "mahoe" or "majagua" (M. and S.: *sani*, *wahpi*, *wahmatis*, *tâitu*) the Indians obtain strong bark fiber (M.: *sani*; S.: *wahso*). The best fiber from these trees is pulled off, split, cut into many threads of the desired size and made into ropes and cordage, hammocks (M.: *silmika*; S.: *wah*), matates or carrying bags (M.: *kûa*; T., P.: *wili*; U.: *wali*). These articles are colored with native bark dyes. The carrying bags are of various sizes and consist of coiled work without foundation; they are furnished with a head strap woven of one piece with the bag.

Bast fiber is also the common tying material of the Indians, and a supply thereof may always be found in the huts. It is also used as pack straps, which are put around the forehead and support the load carried on the back.

PITA FIBER.—Pita or silk-grass fiber (M.: *kara*; S.: *awa*) is employed for similar uses as bast fiber, and the articles made from it are practically indestructible. It is also made into fishlines, fish nets, and bowstrings, and used to repair shoes. Its extraction is very laborious. The pulpy covering surrounding the fibers is removed by scraping the surface of the leaf on a flat board with the aid of a machete or heavy iron knife. The fibers, which are thereby exposed, are then loosened and easily pulled from their bed by rubbing them crosswise of the leaf with the leaf pressed down upon the flat board. They are then washed to remove any adhesive pulp, dried, and rolled on the thigh into twine.

●285 BASKETRY.—Basketry is not highly developed, although in such a well-watered country as the Mosquito Coast there is no lack of palms, vines, creepers, and epiphytic plants which may be used in basketwork. Certain vines are used in tying material, especially in the construction of the dwellings. The carrying bag of bark fiber or pita fiber takes to a large extent the place of baskets. From *wari* withes is made a round basket (M. and S.: *uslun*, *usnus*), which is used to store calabashes and other small kitchen utensils. Other types made by the Sumu are called by these Indians *wah-tâina* and *sidan*. A large waterproof basket, known locally by the name *pataki*, is obtained in trade from the Black Carib; it is made from *siwa* withes.

281 177 LEATHER WORK.—The art of tanning has apparently been learned from the whites. The bark of numerous indigenous trees is used by the Indians for tanning purposes. Leather is used nowadays for drumheads, masquerade dresses, sandals, moccasins, crude saddles, and belts.

383 RUBBER INDUSTRY.—Some of the Indians have learned the process of hardening the milk of the rubber tree (*Castilla* sp.) by treating

2: Kirchhoff E-4 (no date) 1948
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wore tight cotton bands below the knees and above the ankles. Today 301
woven bands of glass beads are worn around the neck, wrists, and ankles. Straw hats are decorated with feathers and jaguar teeth (*Mosquito, Paya*).

Black paint is smeared over the body by the men (*Sumo, Mosquito,* 302
Paya) as a decoration and for protection from insects. Geometrical de- [751]
signs are drawn in red paint, mainly by the women. The *Sumo, Mosquito,* [53]
and *Paya* tattooed geometrical designs upon the face, arms, and breast. 304
The *Sumo* men made ornamental scars on their faces and chipped their teeth. All *Sumo* tribes except the *Bawihka* practiced head deformation. During infancy a folding flap of wood at the top of the cradle was tied firmly to the crown of the head.

TRANSPORTATION

Loads are carried with a band passing over the head (women) or 482
across the chest (men). Children are carried on the back in a blanket, [855]
the points of which are tied in front. [987]

The country has hunting trails but no roads. Most travel is done 501
in dugout canoes propelled with poles and broad-bladed paddles. Rafts are used for down-river traffic. Large keeled canoes, often equipped with a sail, are used at sea.

MANUFACTURES

Basketry.—Crude baskets, mainly of wickerwork, are made chiefly for 285
storage bins. Bark and silk grass fiber bags are very common. Bark fiber is used also to make tumplines, hammocks, and such.

Bark cloth.—Bark cloth is beaten out of ficus-tree bark with a grooved 287
wooden mallet.

Weaving.—Cotton is spun on a spindle, which has a whorl and is 286
rotated in a gourd. Coarse-textured but soft cotton cloth is woven on a two-beam loom. Thread was formerly dyed and designs were woven in the cloth. Sometimes feathers, particularly a fringe of white Muscovy duck down, were incorporated into the fabric.

Ceramics.—Pottery making has been described only from the *Sumo* 323
and *Paya*, although pottery was formerly made by all tribes. Women model small vessels out of a lump of clay but build up large ones with coils. They polish them with a pebble, dry them for several days, and fire them in the open. Pottery types include jars about 4 feet (1.3 m.) high, various types of jugs, water jars, small bowls, griddles, and tobacco pipes. All vessels have a convex base.

Miscellaneous manufactures.—Metates are still used by the *Paya* 415
and *Sumo*, and they have recently been adopted by the *Jicaque*, but the *Mosquito* are said no longer to use them. Metates are flat-topped boulders, which only rarely have a trimmed surface. Manos are round pebbles.

2: Kirchhoff E-4 (no date) 1948
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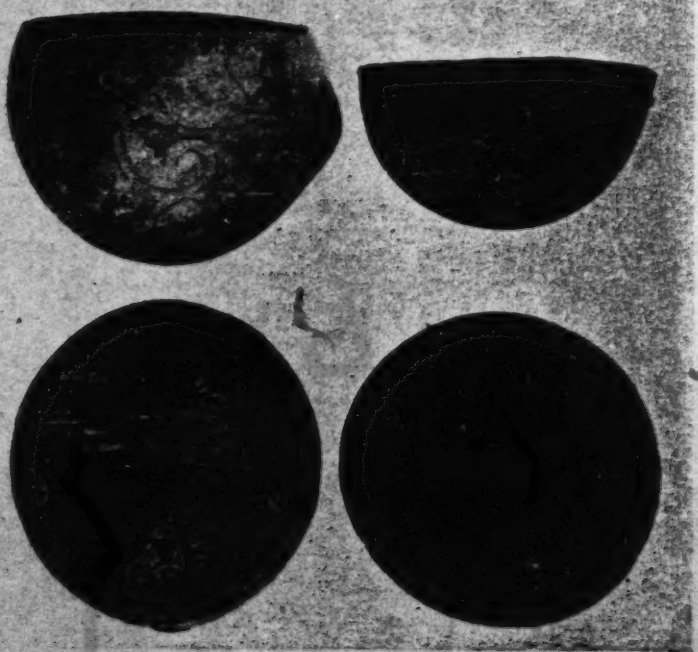

PLATE 36.—Sumo manufactures. *Top:* Beadwork. *Bottom:* Decorated gourd bowls. (Courtesy American Museum of Natural History.)

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